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BUILDING COMMISSIONING

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CASE STUDY

New addition to Spokane Community College

"The commissioning process found problems that would have plagued the facility for years. Callbacks were minimal and they did not have to repeatedly fix the same problem because they were identified during the process."

- Butch Slaughter,
District Facilities Project Manager,
Community Colleges of Spokane

COMMISSIONING QUICK FACTS

Building: Health Science Building, Community College of Spokane

Location: Spokane, Washington

Completion date: June 2003

Scope of project: Commissioning of new addition and modernization of existing facility

Commissioning cost: $82,820[1]

First-year cost benefit: $10,510[2]

Annual energy savings: $8,080[3]

[1] Commissioning providers fee only.

[2] Cost reduction or avoidance.

[3] Annual energy savings based on cost of electricity of $0.0494/kWh and natural gas of $0.755 /therm.

COMMISSIONING PROCESS KEY TO A HEALTHY ADDITION

A growing demand for services prompted the expansion of the Health Science Building at the Community College of Spokane in Spokane, Washington. It was crucial, therefore, that all the building systems worked properly upon completion to avoid any further "down time." For this reason, the owner contracted with a commissioning agent to ensure the building's mechanical, electrical, emergency and auxiliary systems were thoroughly tested and commissioned. Both the addition and the existing facility covered 56,560 square feet.

In the initial stages, the contractor was leery of the commissioning process, expecting it to highlight poor workmanship. However, he soon found that the commissioning process was actually a benefit to him and the project. Problems were found and resolved prior to occupancy, when it was easier to access the building, saving time and money. Some of the problems that were uncovered could have potentially plagued the facility for years. The contractor also found that commissioning limited the number of "call backs" he had to make to his subcontractors. In addition, the owner realized energy savings due to the timely correction of deficiencies and improved operational efficiency. And, most importantly, the owner and occupants were pleased that the enlarged facility was operating properly and efficiently from the start.

BUILDING COMMISSIONING

Is a systematic and documented process of ensuring that the owner's operational needs are met, building systems perform efficiently, and building operators are properly trained.

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This is one in a series of case studies on commissioning.
To review other case studies go to www.betterbricks.com/commissioning.

Some of the deficiencies found and corrected during the commissioning process included:

- Heating water control valves were leaking and would have caused occupant discomfort and wasted energy if not corrected.
- 40 of the 60 smoke dampers failed to close fully or didn't open fully, and operated erratically, posing a significant safety hazard.
- The main service ground fault protection device did not interrupt power when activated. This could have resulted in major damage to equipment during an electrical fault situation.
- The carbon dioxide sensor in a lecture room was out of calibration giving false indications of high carbon dioxide levels and unnecessarily admitting excess outside air into the facility. This would have resulted in excess energy use to condition the air.

In the end, the owners of the new addition and renovated space were satisfied that commissioning had assured them of a properly operating high performance building that will serve students and staff efficiently.

LESSONS LEARNED

- Awarding a sole commissioning contract insured project success.
- The early creation of a commissioning plan can serve to bring all parties together.

COMMISSIONING BENEFITS

- The facility was operational prior to occupancy.
- The building operated with minimal initial maintenance.
- Energy efficiency opportunities were identified resulting in lower operating costs.

"Commissioning is a good concept - it will be useful in other projects. We found it very worthwhile - everything was ready to go, in spite of complexity of system."

- Steve Fuller,
Hartanov/Fuller General Contractors, Inc.

PROJECT PARTNERS

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